FlyBy Math™ Alignment
North Dakota Mathematics Content and Achievement Standards
April 2005

Standard 1: Number and Operation
Students understand and use basic and advanced concepts of number and number systems.

COMPUTATIONAL FLUENCY AND ESTIMATION

Benchmark Expectations	*FlyBy Math*™ Activities
6.1.13. Use problem solving strategies to solve and verify the results of problems.	--Use tables, graphs, and equations to solve aircraft conflict problems. --Predict outcomes and explain results of mathematical models and experiments.

Standard 2: Geometry and Spatial Sense
Student understands and applies geometric concepts and spatial relationships to represent and solve problems in mathematical and nonmathematical situations.

COORDINATE GEOMETRY

Benchmark Expectations	*FlyBy Math*™ Activities
6.2.4 Use ordered pairs to locate a point on a coordinate plane.	--Plot points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system to describe the motion of two airplanes.

Standard 3: Data Analysis, Statistics and Probability
Students use data collection and analysis techniques, statistical methods, and probability to solve problems.

DATA COLLECTION, DISPLAY, AND INTERPRETATION

Benchmark Expectations	*FlyBy Math*™ Activities
6.3.1 Collect and organize data, select and use an appropriate display; i.e., a frequency table, a line and bar graph.	--Conduct simulation and measurement for several aircraft conflict problems. --Choose among tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.

PREDICTIONS, DATA ANALYSIS, AND INFERENCES

Benchmark Expectations	*FlyBy Math*™ Activities
6.3.6 Make predictions based on trends identified in tables and graphs.	--Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.

Standard 4: Measurement Students use concepts and tools of measurement to describe and quantify the world.	
MEASURABLE ATTRIBUTES, MEASUREMENT SYSTEMS AND UNITS	
Benchmark Expectations	***FlyBy Math*™ Activities**
6.4.2. Select an appropriate unit of measure; e.g., What unit do you use to measure a person's height?	--Calculate and measure the position and time of simulated aircraft. Represent that motion using tables, graphs, equations, and experimentation.

Standard 5: Algebra, Functions and Patterns Students use algebraic concepts, functions, patterns, and relationships to solve problems.	
PATTERNS, RELATIONS, AND FUNCTIONS	
Benchmark Expectations	***FlyBy Math*™ Activities**
6.5.1. Identify and describe patterns represented by tables, graphs, and sequences.	--Represent distance, speed, and time relationships for constant speed cases using tables, bar graphs, line graphs, equations, and a Cartesian coordinate system. --Use tables, graphs, and equations to solve aircraft conflict problems.
MATHEMATICAL MODELING	
Benchmark Expectations	***FlyBy Math*™ Activities**
6.5.3. Use representations to solve problems; i.e., tables and numerical sentences.	--Represent distance, speed, and time relationships for constant speed cases using tables, bar graphs, line graphs, equations, and a Cartesian coordinate system. --Use tables, graphs, and equations to solve aircraft conflict problems.
RATES OF CHANGE	
Benchmark Expectations	***FlyBy Math*™ Activities**
6.5.4. Recognize examples of change over time; e.g., growth of a sixth grader from September to May.	--Use graphs to compare airspace scenarios for both the same and different starting conditions and the same and different constant (fixed) rates. --Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.